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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,967	12/09/2003	Masahiko Ogawa	CFA00022US	6424

7590 09/14/2006

Canon U.S.A. Inc.
Intellectual Property Department
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EXAMINER	
PRAKASAM, RAMYA G	

ART UNIT	PAPER NUMBER
3651	

DATE MAILED: 09/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/731,967	OGAWA ET AL.	
	Examiner	Art Unit	
	Ramya G. Prakasam	3651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/09/03, 7/15/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 9-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for including both a product and a process in the same claim. A single claim that claims both an apparatus and the method steps of using the apparatus is indefinite. (See M.P.E.P. 2173(p)). Please revise.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-3, 5-7, and 9-10 rejected under 35 U.S.C. 103(a) as being unpatentable over Shimomura (U.S. Patent No. 5,838,596) in view of May (U.S. Patent No. 6,549,745).

Shimomura discloses a method for simulating the behavior of a flexible medium (See Column 6, lines 52-61) which is conveyed along a conveying path (See Figure 2) constructed of a pair of conveyor rollers (11), the method comprising the steps of:

- Performing a simulation such that a conveying force corresponding to the difference between the second peripheral speed and a speed of the flexible medium is applied to the flexible medium when the flexible medium reaches the non-contact region of the conveyor rollers (See Column 10, lines 32-58), such that the flexible medium is

conveyed at the first peripheral speed when the flexible medium reaches the contact region of the conveyor rollers (See Column 10, lines 51-58).

Shimomura further discloses an apparatus (10) which simulates the behavior of a flexible medium (See Column 6, lines 52-61) which is conveyed along a conveying path (See Figure 2) constructed of a pair of conveyor rollers (11), the apparatus comprising:

- A processor (20) which performs a simulation under a condition that a conveying force corresponding to the difference between the second peripheral speed and a moving speed of the flexible medium is applied to the flexible medium when the flexible medium reaches the non-contact region of the conveyor rollers (See Column 10, lines 32-58) and a condition that the flexible medium is conveyed at the first peripheral speed when the flexible medium reaches the contact region of the conveyor rollers (See Column 10, lines 51-58).

Shimomura also discloses a program (20) for executing a method for simulating the behavior of a flexible medium (See Column 6, lines 52-61) which is conveyed along a conveying path constructed of a pair of conveyor rollers (11), the program comprising the steps of:

- Performing a simulation under a condition that a conveying force corresponding to the difference between the second peripheral speed and a moving speed of the flexible medium is applied to the flexible medium when the flexible medium reaches the non-contact region of the conveyor rollers (See Column 10, lines 32-58) and a condition that the flexible medium is conveyed at the first peripheral speed when the flexible medium reaches the contact region of the conveyor rollers (See Column 10, lines 51-58).

Shimomura further discloses a storage medium (20) which stores a program for executing a method for simulating the behavior of a flexible medium (See Column 6, lines 52-61) which is conveyed along a conveying path (See Figure 2) constructed of a pair of conveyor rollers (11), the program comprising the steps of:

- Performing a simulation under a condition that a conveying force corresponding to the difference between the second peripheral speed and a moving speed of the flexible medium is applied to the flexible medium (See Column 10, lines 32-58) when the flexible medium reaches the non-contact region of the conveyor rollers and a condition that the flexible medium is conveyed at the first peripheral speed when the flexible medium reaches the contact region of the conveyor rollers (See Column 10, lines 51-58).

Shimomura, however, does not discloses a method, program, and storage medium:

- A method, program and storage medium:
  - Dividing the surfaces of the conveyor rollers into a contact region and a non-contact region and setting a first peripheral speed and a second peripheral speed for the contact region and the non-contact region, respectively, the first and the second peripheral speeds being different from each other;
  - Wherein the pair of conveyor rollers consists of a drive roller and a driven roller and the second peripheral speed is set individually for each of the drive roller and the driven roller.
  - Wherein the distance between the axes of the conveyor rollers is calculated on the basis of a nip width which is set in advance.

- An apparatus comprising:
  - A memory which stores a first peripheral speed and a second peripheral speed, the first peripheral speed and the second peripheral speed being different from each other and being set respectively for a contact region and a non-contact region into which the surfaces of the conveyor rollers are divided; and,
  - Wherein the pair of conveyor rollers consists of a drive roller and a driven roller and the memory stores the second peripheral speed for each of the drive roller and the driven roller individually.
  - Wherein the processor calculates the distance between the axes of the conveyor rollers on the basis of a nip width which is set in advance.

May discloses:

- A method, program and storage medium:
  - Dividing the surfaces of the conveyor rollers into a contact region and a non-contact region and setting a first peripheral speed and a second peripheral speed for the contact region and the non-contact region, respectively, the first and the second peripheral speeds being different from each other (See Column 10, lines 31-43) for the purpose of accounting for the frictional drive in the nip (See Column 10, lines 35-36);
  - Wherein the pair of conveyor rollers consists of a drive roller (21) and a driven roller (11) and the second peripheral speed is set individually for each of the drive roller and the driven roller (See Figure 3a and Column 10, lines

29-31) for the purpose of providing a nonslip condition of engagement in nip (See Column 10, lines 30-31).

- Wherein the distance between the axes of the conveyor rollers is calculated on the basis of a nip width which is set in advance (See Column 10, lines 49-55) for the purpose of increasing or decreasing engagement with the nip (See Column 10, lines 54-55).

- An apparatus comprising:
  - A memory (See Column 10, lines 40-45 "EAD") which stores a first peripheral speed and a second peripheral speed, the first peripheral speed and the second peripheral speed being different from each other and being set respectively for a contact region and a non-contact region into which the surfaces of the conveyor rollers are divided (See Column 10, lines 31-43) for the purpose of accounting for the frictional drive in the nip (See Column 10, lines 35-36); and,
  - Wherein the pair of conveyor rollers consists of a drive roller (21) and a driven roller (11) and the memory stores the second peripheral speed for each of the drive roller and the driven roller individually (See Column 10, lines 29-31) for the purpose of providing a nonslip condition of engagement in nip (See Column 10, lines 30-31).
  - Wherein the processor calculates the distance between the axes of the conveyor rollers on the basis of a nip width which is set in advance (See

Column 10, lines 49-55) for the purpose of increasing or decreasing engagement with the nip (See Column 10, lines 54-55).

It would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify Shimomura by utilizing:

- A method, program and storage medium:
  - Dividing the surfaces of the conveyor rollers into a contact region and a non-contact region and setting a first peripheral speed and a second peripheral speed for the contact region and the non-contact region, respectively, the first and the second peripheral speeds being different from each other for the purpose of accounting for the frictional drive in the nip;
  - Wherein the pair of conveyor rollers consists of a drive roller and a driven roller and the second peripheral speed is set individually for each of the drive roller and the driven roller for the purpose of providing a nonslip condition of engagement in nip.
  - Wherein the distance between the axes of the conveyor rollers is calculated on the basis of a nip width which is set in advance for the purpose of increasing or decreasing engagement with the nip.
- An apparatus comprising:
  - A memory which stores a first peripheral speed and a second peripheral speed, the first peripheral speed and the second peripheral speed being different from each other and being set respectively for a contact region and a non-contact

region into which the surfaces of the conveyor rollers are divided for the purpose of accounting for the frictional drive in the nip;

- Wherein the pair of conveyor rollers consists of a drive roller and a driven roller and the memory stores the second peripheral speed for each of the drive roller and the driven roller individually for the purpose of providing a nonslip condition of engagement in nip.
- Wherein the processor calculates the distance between the axes of the conveyor rollers on the basis of a nip width which is set in advance for the purpose of increasing or decreasing engagement with the nip.

5. Claims 4, 8, and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimomura in view of May and further in view of Iijima (U.S. Patent Application Publication No. 2002/0176722).

Shimomura in view of May discloses all claimed limitations (see above), except for:

- A method further comprising the steps of:
  - Calculating a load torque applied to the conveyor rollers on the basis of a contact force generated when the flexible medium is in contact with a conveyor guide for conveying the flexible medium; and
  - Issuing a warning when the calculated load torque is greater than a driving torque of the conveyor rollers, the driving torque being set in advance.
- An apparatus, wherein the processor calculates a load torque applied to the conveyor rollers on the basis of a contact force generated when the flexible medium is in contact with a conveyor guide for conveying the flexible medium and issues a

warning when the calculated load torque is greater than a driving torque of the conveyor rollers, the driving torque being set in advance.

Iijima discloses:

- A method further comprising the steps of:
  - Calculating a load torque applied to the conveyor rollers on the basis of a contact force generated when the flexible medium is in contact with a conveyor guide for conveying the flexible medium (See Paragraph 0026) for the purpose of improving the limit value of the load torque (See Paragraph 0026); and
  - Issuing a warning when the calculated load torque is greater than a driving torque of the conveyor rollers, the driving torque being set in advance (See Paragraph 0024) for the purpose of accommodating the increase in the normal slip in the conveyor (See Paragraph 0024).
- An apparatus, wherein the processor calculates a load torque applied to the conveyor rollers on the basis of a contact force generated when the flexible medium is in contact with a conveyor guide for conveying the flexible medium (See Paragraph 0026) and issues a warning when the calculated load torque is greater than a driving torque of the conveyor rollers, the driving torque being set in advance (See Paragraph 0024) for the purpose of improving the limit value of the load torque and accommodating the increase in the normal slip of the conveyor. (See Paragraphs 0024 and 0026).

It would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify Shimomura in view of May by utilizing:

- A method further comprising the steps of:
  - Calculating a load torque applied to the conveyor rollers on the basis of a contact force generated when the flexible medium is in contact with a conveyor guide for conveying the flexible medium for the purpose of improving the limit value of the load torque; and
  - Issuing a warning when the calculated load torque is greater than a driving torque of the conveyor rollers, the driving torque being set in advance for the purpose of accommodating the increase in the normal slip in the conveyor.
- An apparatus, wherein the processor calculates a load torque applied to the conveyor rollers on the basis of a contact force generated when the flexible medium is in contact with a conveyor guide for conveying the flexible medium and issues a warning when the calculated load torque is greater than a driving torque of the conveyor rollers, the driving torque being set in advance for the purpose of improving the limit value of the load torque and accommodating the increase in the normal slip of the conveyor.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramya G. Prakasam whose telephone number is (571) 272-6011. The examiner can normally be reached on Monday - Thursday, 8:30am-7pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Crawford can be reached on (571) 272-6911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

9/12/2006
RGP

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SUPERVISORY PATENT EXAMINER